

WHAT IS CLAIMED IS:

1. A laminate film that includes a guard film layer (A), a clear coating layer (B), and a color coating layer (C), the clear coating layer (B) being provided on the guard film layer (A), and the color coating layer (C) being formed by applying a color coating material on the clear coating layer (C), wherein:

the color coating material contains at least acrylic resin (C1), urethane resin (C2), and a shining material (C3), and has a viscosity not less than 1000mPa·S and not more than 5000mPa·S at 25°C;

the shining material (C3) contains at least an aluminum flake, which gives an SV value of 120 or more, and an IV value of 200 or more, to an evaluation-use coating film containing the aluminum flake; and

the color coating material layer (C) is formed by applying the color coating material with a shearing force.

2. The laminate film as set forth in Claim 1, wherein:

the color coating layer (C) is formed by applying the color coating material with a shearing force by using at least one of an applicator, a die coater, a bar coater, a roll coater, and a comma coater.

3. The laminate film as set forth in Claim 1, further comprising:

an adhesive agent layer on the color coating layer (C).

4. The laminate film as set forth in Claim 1, wherein:

the color coating material contains, based on 100 parts by weight of a total amount (C1 + C2) of the acrylic resin (C1) and the urethane resin (C2) by solid content:

the acrylic resin (C1), by solid content, not less than 10 parts by weight and not more than 80 parts by weight;

the urethane resin (C2), by solid content, not less than 20 parts by weight and not more than 90 parts by weight; and

the aluminum flake, by solid content, not less than 1 part by weight and not more than 30 parts by weight;

the clear coating layer (B) is formed by applying a clear coating material containing at least acrylic-based resin (B1), an urethane-based oligomer (B2), a multifunctional monomer (B3), and a polymerization initiator (B4); and

the clear coating material contains, based on 100 part by weight of the total amount (B1+B2+B3) of the

acrylic-based resin (B1), the urethane-based oligomer (B2), and the multifunctional monomer (B3) by solid contents by weight:

the acrylic-based resin (B1), by solid content, not less than 29 parts by weight and not more than 70 parts by weight;

the urethane-based oligomer (B2), by solid content, not less than 20 parts by weight and not more than 70 parts by weight; and

the multifunctional monomer (B3), by solid content, not less than 1 part by weight and not more than 40 parts by weight; and

the polymerization initiator (B4), by solid content, not less than 0.1 part by weight and not more than 20 parts by weight.

5. The laminate film as set forth in Claim 1, wherein:

the urethane resin (C2) has a urea bonding amount not less than 0.14mmol/g and not more than 1.12mmol/g; and

the acrylic resin (C1) has a glass transition temperature not less than 0°C and not more than 100°C.

6. The laminate film as set forth in Claim 1, wherein:

the clear coating material has a photo curing

property;

before photo-curing, the clear coating layer (B) containing the clear coating material has after-tearing elongation of 400% or more at 80°C; and

after photo-curing, the clear coating layer (B) containing the clear coating material has a universal hardness of 80N/mm² or more at 25°C, and a tensile strength of 400kg/cm² or more at 20°C.

7. The laminate film as set forth in Claim 1, wherein:
the guard film layer (A) has a tensile strength not less than 10kg/cm² and not more than 200kg/cm² at 20°C.

8. The laminate film as set forth in Claim 3, further comprising:

an inner film layer on the adhesive agent layer.

9. A laminate film that includes a guard film layer (A), a clear coating layer (B), and a color coating layer (C), the clear coating layer (B) being provided on the guard film layer (A), and the color coating layer (C) being formed by applying a color coating material on the clear coating layer (C), wherein:

the clear coating layer (B) contains a clear coating

material containing at least (i) acrylic-based resin (B1), (ii) urethane-based oligomer (B2), (iii) a multifunctional monomer (B3), and (iv) a polymerization initiator (B4);

the clear coating material contains, based on 100 part by weight of the total amount (B1+B2+B3) of the acrylic-based resin (B1), the urethane-based oligomer (B2), and the multifunctional monomer (B3) by solid contents by weight:

the acrylic-based resin (B1), by solid content, not less than 29 parts by weight and not more than 70 parts by weight;

the urethane-based oligomer (B2), by solid content, not less than 20 parts by weight and not more than 70 parts by weight; and

the multifunctional monomer (B3), by solid content, not less than 1 part by weight and not more than 40 parts by weight; and

the polymerization initiator (B4), by solid content, not less than 0.1 part by weight and not more than 20 parts by weight;

the color coating layer (C) contains a color coating material containing at least (i') acrylic resin (C1), (ii') urethane resin (C2), (iii') a shining material (C3), and (iv') an orientation control material (C4), the shining material (C3) containing at least an aluminum flake, which gives

an SV value of 85 or more, and an IV value of 250 or more, to an evaluation-use coating film containing the aluminum flake, and the orientation control material (C4) containing at least one of an extender pigment and a resin bead;

the color coating material contains, based on 100 parts by weight of a total amount (C1 + C2) of the acrylic resin (C1) and the urethane resin (C2) by solid content:

the acrylic resin (C1), by solid content, not less than 10 parts by weight and not more than 80 parts by weight;

the urethane resin (C2), by solid content, not less than 20 parts by weight and not more than 90 parts by weight;

the aluminum flake, by solid content, not less than 1 part by weight and not more than 30 parts by weight; and

the orientation control material (C4), by solid content, not less than 2 parts by weight and not more than 20 parts by weight.

10. The laminate film as set forth in Claim 9, further comprising:

an adhesive agent layer on the color coating layer (C).

11. The laminate film as set forth in Claim 9, wherein:

the urethane resin (C2) has a urea bonding amount not less than 0.14mmol/g and not more than 1.12mmol/g; and

the acrylic resin (C1) has a glass transition temperature not less than 0°C and not more than 100°C.

12. The laminate film as set forth in Claim 9, wherein:

the clear coating material has a photo curing property;

before photo-curing, the clear coating layer (B) containing the clear coating material has after-tearing elongation of 400% or more at 80°C; and

after photo-curing, the clear coating layer (B) containing the clear coating material has a universal hardness of 80N/mm² or more at 25°C, and a tensile strength of 400kg/cm² or more at 20°C.

13. The laminate film as set forth in Claim 9, wherein:

the guard film layer (A) has a tensile strength not less than 10kg/cm² and not more than 200kg/cm² at 20°C.

14. The laminate film as set forth in Claim 10, further comprising:

an inner film layer on the adhesive agent layer.

15. An article comprising a laminate film provided on a base article, wherein:

the laminate film includes a guard film layer (A), a clear coating layer (B), and a color coating layer (C), the clear coating layer (B) being provided on the guard film layer (A), and the color coating layer (C) being formed by applying a color coating material on the clear coating layer (C);

the color coating material contains at least acrylic resin (C1), urethane resin (C2), and a shining material (C3), and has a viscosity not less than 1000mPa·S and not more than 5000mPa·S at 25°C;

the shining material (C3) contains at least an aluminum flake, which gives an SV value of 120 or more and an IV value of 200 or more, to an evaluation-use coating film containing the aluminum flake; and

the color coating material layer (C) is formed by applying the color coating material with a shearing force.

16. An article comprising a laminate film provided on

a base article, wherein:

the laminate film includes a guard film layer (A), a clear coating layer (B), and a color coating layer (C), the clear coating layer (B) being provided on the guard film layer (A), and the color coating layer (C) being formed by applying a color coating material on the clear coating layer (C);

the clear coating layer (B) contains a clear coating material containing at least (i) acrylic-based resin (B1), (ii) urethane-based oligomer (B2), (iii) a multifunctional monomer (B3), and (iv) a polymerization initiator (B4);

the clear coating material contains, based on 100 part by weight of the total amount (B1+B2+B3) of the acrylic-based resin (B1), the urethane-based oligomer (B2), and the multifunctional monomer (B3) by solid contents by weight:

the acrylic-based resin (B1), by solid content, not less than 29 parts by weight and not more than 70 parts by weight;

the urethane-based oligomer (B2), by solid content, not less than 20 parts by weight and not more than 70 parts by weight; and

the multifunctional monomer (B3), by solid content, not less than 1 part by weight and not more than 40 parts by weight; and

the polymerization initiator (B4), by solid content, not less than 0.1 part by weight and not more than 20 parts by weight;

the color coating layer (C) contains a color coating material containing at least (i') acrylic resin (C1), (ii') urethane resin (C2), (iii') a shining material (C3), and (iv') an orientation control material (C4), the shining material (C3) containing at least an aluminum flake, which gives an SV value of 85 or more and an IV value of 250 or more, to an evaluation-use coating film containing the aluminum flake, and the orientation control material (C4) containing at least one of an extender pigment and a resin bead;

the color coating material contains, based on 100 parts by weight of a total amount (C1 + C2) of the acrylic resin (C1) and the urethane resin (C2) by solid content:

the acrylic resin (C1), by solid content, not less than 10 parts by weight and not more than 80 parts by weight;

the urethane resin (C2), by solid content, not less than 20 parts by weight and not more than 90 parts by weight;

the aluminum flake, by solid content, not less than 1 part by weight and not more than 30 parts by weight; and

the orientation control material (C4), by solid

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content, not less than 2 parts by weight and not more than 20 parts by weight.